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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,222	09/12/2003	Jang Hyun Choi	61282.00008	6829

30256 7590 10/01/2004

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,222

Applicant(s)

CHOI ET AL.

Examiner

Cathy Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Jan 02, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Election/Restrictions

1. Applicant's election of group I (ie. claims 1-5) in the reply filed on July 26, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. This application contains claim 6 is drawn to an invention nonelected without traverse in Paper No. filed on July 26, 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Specification

3. The disclosure is objected to because of the following informalities: terms such as PCM on page 1, RMP, HDP & PVDF on page 2, and WDP on page 3 are not clear. Applicant is required to provide with their complete names.

Appropriate correction is required.

Claim Objections

4. The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m). Or the numerals in the claims can be deleted.

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In the claims, the term "zinc-" is suggested to change to -- zinc --.

Claim Rejections - 35 USC § 112

5. Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is vague and indefinite as to what "a layer formed on the zinc or zinc alloy...." Is referring to?

In claim 3, it is unclear and lack of antecedent basis for "the solid of the main resin".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al (US 6444267) in view of Lee et al (US 6486239).

Choi discloses a gravure transfer coated steel plate comprised of a zinc alloy coated steel plate, a chromate layer, a primer coating layer and an upper coating layer (or top coat); all in the named order.

The zinc alloy coated steel plate is coated with a chromate layer, followed by a primer coating layer (col 2 L 38-45). The primer coating layer is a flexible polyester resin and has a dry film thickness of less than 10 μm (col 2 L 62-65, col 5 L 40-41). The

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upper coating layer is coated which has a dry film thickness of 7-20 μm , is over the primer coating layer (col 6 L 53-55).

The upper coating layer is polyester resin with an average MW of 5000-20000, a T_g of from 40-70 $^{\circ}\text{C}$; the polyester resin is mixed with a hydrocarbon based solvent and an ester based solvent (ie oil free), and with a melamine as a crosslinking agent (col 4 L 60-64).

Choi also teaches that the chromate layer has a density of 20-38 mg/m^2 (col 5 L 27-28).

Choi teaches the present invention but is silent about the polyester upper coating layer containing a polyisocyanate compound.

Lee discloses a polyester based coating composition which is used for anti-stain precoated metal. The precoated metal is particularly a metallized steel e.g. zinc coated steel (col 1 L 58 & col 7 L 40-45).

The polyester based coating composition is comprised of a hydroxy unsaturated polyester resin, a melamine curing agent and an isocyanate compound (col 2 L 31-35).

The coating composition is comprised of 40-80 wt% hydroxy unsaturated polyester resin, 5-50 wt% of the melamine curing agent and 1-10 wt% of the isocyanate compound (col 2 L 53-64).

The hydroxy unsaturated polyester resin is an oil free polyester modified resin which as a MW of 2000-7000, T_g of from -15 to 45°C and the OH value of 20-150 (col 3 L 27-38).

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In view of the prior art teachings, one skill in the art would use Lee's polyester coating composition on a zinc coated steel plate because Lee's polyester coating composition gives excellent physical properties such as surface compactness, anti-contamination, acid resistance and self cleaning capacity, etc. (Lee, col 2 L 25-29).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
September 29, 2004